

CLAIMS

What is claimed:

1. A process for preparing an elastomeric polyurethane material having a shore A hardness
5 of at most 5 (DIN 53505), a density of 500 kg/m³ or more (DIN 53420), a compression
load deflation at 40% (CLD) of 600 kPa or less (DIN 53577), and a resilience of 25% or
less (ISO 8307) comprising the step of reacting:
 - 1) a polymethylene polyphenylene polyisocyanate having an average isocyanate
functionality of 2.4 or more,
 - 10 2) a polymeric polyol having an average equivalent weight of at least 500 and an
average nominal hydroxyl functionality of 2-4,
 - 3) a polymer having a nominal hydroxyl functionality of 1 and an average equivalent
weight of at least 500, and
 - 4) optional additives and auxiliaries known per se in an amount of less than 5% by
15 weight (based on the weight of the polyisocyanate, polymeric polyol 2) and polymer
3)),
wherein the reaction is conducted at an index of 90-110 and the equivalent amount of
polymer 3) is 25-80% of the available NCO equivalents.
- 20 2. The process according to claim 1 wherein the average isocyanate functionality is 2.5-3.2,
the polymeric polyol 2) has an average equivalent weight of 700-2000 and an average
nominal hydroxyl functionality of 2, the polymer 3) has an average equivalent weight of
500-3000, and wherein the index is 90-110 and the equivalent amount of polymer 3) is 35-
70% of the available NCO equivalents.
- 25 3. The process according to claim 1 wherein no plasticizer is used other than polymer 3).
4. The process according to claim 2 wherein no plasticizer is used other than polymer 3).
- 30 5. The process according to claim 1, wherein a catalyst is used in an amount of 0.01-1% by
weight based on the weight of the polyisocyanate, polymeric polyol 2) and polymer 3).

6. The process according to claim 2, wherein a catalyst is used in an amount of 0.01-1% by weight based on the weight of the polyisocyanate, polymeric polyol 2) and polymer 3).

5 7. The process according to claim 3, wherein a catalyst is used in an amount of 0.01-1% by weight based on the weight of the polyisocyanate, polymeric polyol 2) and polymer 3).

8. The process according to claim 1, wherein the polymeric polyol 2) is a polyether diol and the polymer 3) is a polyoxyalkylene monool.

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9. The process according to claim 2, wherein the polymeric polyol 2) is a polyether diol and the polymer 3) is a polyoxyalkylene monool.

10. The process according to claim 3, wherein the polymeric polyol 2) is a polyether diol and
15 the polymer 3) is a polyoxyalkylene monool.

11. The process according to claim 5, wherein the polymeric polyol 2) is a polyether diol and the polymer 3) is a polyoxyalkylene monool.

20 12. The process according to claim 1 wherein the index is 98-102.

13. The process according to claim 2 wherein the index is 98-102.

14. The process according to claim 1 wherein less than 2% by weight, (based on the weight of
25 the polyisocyanate, polymeric polyol 2) and polymer 3)), of additives and auxiliaries is used.

15. The process of claim 1 wherein the material is non-blown, the CLD is 10-300 kPa and the resilience is 0-15%.

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16. The process of claim 2 wherein the material is non-blown, the CLD is 10-300 kPa and the resilience is 0-15%.

17. The process of claim 3 wherein the material is non-blown, the CLD is 10-300 kPa and the
5 resilience is 0-15%.

18. The process of claim 1 wherein the hard block ratio is 0.05-0.20 and the Shore A hardness is at most 3 (DIN 53505).

10 19. The process of claim 2 wherein the hard block ratio is 0.05-0.20 and the Shore A hardness is at most 3 (DIN 53505).

20. An elastomeric polyurethane material having a shore A hardness of at most 5 (DIN 53505), a density of 500 kg/m³ or more (DIN 53420), a compression load deflation at 40%
15 (CLD) of 600 kPa or less (DIN 53577), and a resilience of 25% or less (ISO 8307) comprising the reaction product of:

- 1) a polymethylene polyphenylene polyisocyanate having an average isocyanate functionality of 2.4 or more,
- 2) a polymeric polyol having an average equivalent weight of at least 500 and an
20 average nominal hydroxyl functionality of 2-4,
- 3) a polymer having a nominal hydroxyl functionality of 1 and an average equivalent weight of at least 500, and
- 4) optional additives and auxiliaries known per se in an amount of less than 5% by weight (based on the weight of the polyisocyanate, polymeric polyol 2) and polymer
25 3)),

wherein the reaction is conducted at an index of 90-110 and the equivalent amount of polymer 3) is 25-80% of the available NCO equivalents.